

# AMATEUR RADIO



Published in the interests of Amateur Radio  
by the W.I.A. (Vic. Div.). Official Organ  
of all divisions of the W.I.A., A.R.A.  
(N.S.W.) and the R.A.A.F. Wireless Reserve.



PRICE

6<sup>d</sup>

APRIL, 1935

# The "505"



The latest addition to their 2½ in. Instruments

0.50 Millivolts D.C.

0.5 Volts A.C.

0.1 Milliamps D.C.

0.1 Milliamps A.C.

1000 Ohms per Volt

All in the one Instrument, with Selector Switch.

*Stocks Have Arrived*

## NOYES BROS.

(MELBOURNE) PROPY. LTD.

597-603 Lonsdale Street

Phone Central 10105

**AUSTRALASIAN ENGINEERING EQUIPMENT CO.  
PTY. LTD.,**

"Evans House," 415 Bourke Street, Melbourne, C.1.

**KESTER "PLASTIC CORED" SOLDER**

BIND YOUR SOLDER JOINTS WITH "KESLER" PLASTIC  
CORD SOLDER AND BE SAFE FROM DRY JOINTS.  
DON'T WASTE TIME AND MONEY SERVICING  
YOUR RADIO SETS WHERE JOINTS  
ARE "GUMMED" TOGETHER  
WITH SO CALLED RESIN SOLDER,  
WHICH IN THE MAJORITY OF CASES MADE  
FROM OLD BATTERY PLATES AND SCRAP MATERIAL.

Kester Solder is made of only the Finest Virgin Material and is  
Guaranteed Pure.

**Kester "Plastic" Solder**

may be obtained in:-

STICKS	at	LIST PRICE - 3/- ea.
1lb REELS	at	LIST PRICE - 5/- lb
5lb REELS	at	LIST PRICE
20lb REELS	at	LIST PRICE

IF INTERESTED SEND FOR FREE SAMPLE OF KESTER

• • • •

**Birnbach Insulators**

Now in Stock

**Transposition Insulators**

All Wave Reception demands  
a good antenna system. Better  
Signal Strength and less noise from  
man made interference, was the  
goal of the Birnbach Research Eng-  
ineers when they devised this insul-  
ator. Type No. 456 lists 2/-.

Also Quantity G.R. Plugs.

**Stand off Insulators**

They are made in two different  
sizes:- 1 1/4" High 1 1/2" Base 1in.  
High 1 1/4" Base.

These Insulators are made of  
white Porcelain fitted with Hardware  
all brass nickle plated. List Price  
1/8 and 1/2 Respectively.

**Other Types of Feed Through Insulators in Stock**

FINE GRANULE MICROPHONE CARBON

We have small supplies of this carbon in stock, of the Polished Granule Type  
which we can sell to amateurs only at 12/6 an ounce nett.

# WESTINGHOUSE UNIVERSAL RECTOX INSTRUMENT

— for —  
A.C. or D.C.

## Voltage, Current, or Resistance Measurements

- The instrument is self-contained for the following ranges:—

0—1 milliampere, d-c. (resistance 100 ohms).

0—1 milliampere, a-c (resistance 5000 ohms).

0—100 millivolts, d-c. (resistance 100 ohms).

0—5 volts, a-c. (resistance 5000 ohms).

Four terminals are provided on this instrument, two for d-c., and two for a-c. No shunt or special connection is required when changing from a-c. to d-c. Simply use the d-c. terminals for d-c., and the a-c. terminals for a-c.

The following additional ranges can be obtained by the use of accessories which are ordered separately.

Volts, d-c. — 0-1-5-10-50-100-200-500-1000.

Volts, a-c. — 0-10-50-100-200-500-1000.

Ohms—0-1000-10,000-100,000.

Milliamps., d-c.—0-5-10-50-100-500

Amperes, d-c.—0-1-5-10-50.

Milliamps., a-c.—0-5-10-50-100.

Prominent High-Class Radio Manufacturers have obtained and made this Instrument their Standard.

WRITE FOR CATALOGUE, SECTION 43, 341.

**ALAN S. DUKE Pty. Ltd.,**  
486 BOURKE STREET, MELBOURNE, C.1.  
Telephone, C 1255.

# AMATEUR RADIO

Published by the Wireless Institute of Aust., Victorian Division.

Vol. 3. No. 4

1st. April, 1935

## INDEX

<p>Editorial ... .. 5</p> <p>Amateur Phone Modulation ... 6</p> <p>Federal Convention... .. 10</p> <p>What is a "Country"? ... 13</p> <p>Station Descriptions... .. 15</p> <p>Typical Topicals ... .. 16</p> <p>Operating and Experimental Section ... .. 18</p> <p>Victorian QSL Bureau ... 19</p>	<p><b>Divisional Notes:</b></p> <p>A.R.A. ... .. 21</p> <p>VK2 ... .. 21</p> <p>VK3 ... .. 23</p> <p>VK4 ... .. 24</p> <p>VK5 ... .. 24</p> <p>VK7 ... .. 24</p> <p>R.A.A.F. ... .. 27</p>
---	--

## WIRELESS INSTITUTE OF AUSTRALIA. OFFICE-BEARERS:

**Federal Headquarters:**

Box 2127 "L," G.P.O. Sydney

**President:**

W. M. MOORE (VK2HZ)

**Vice President:**

J. C. PINNELL ((VK2ZR)

**Secretary:**

H. W. CALDECOTT (VK2DA)

**Traffic Manager:**

E. L. COLYER (VK2EL)

**Treasurer and Publicity Officer:**

W. E. C. BISCHOFF (VK2LZ)

**Victorian Division**

**Patron:**

CAPT A. E. PAYNE (VK3PP)

**President:**

H. KINNEAR (VK3KN)

**Secretary:**

R. ANDERSON (VK3WY)

**Treasurer:**

J. G. MARSLAND (VK3NY)

**Traffic Manager:**

R. H. CUNNINGHAM (VK3ML)

**Magazine Committee:**

H. KINNEAR (VK3KN),

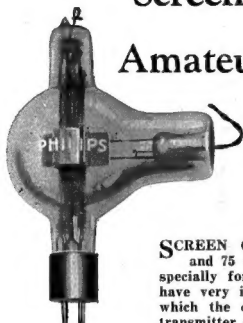
V. MARSHALL (VK3UK), L. MONCUR (VK3LN) Distribution,  
W. R. GRONOW (VK3WG), J. MARSLAND (VK3NY) Secretary,  
R. H. CUNNINGHAM (VK3ML) Technical.

All Communications and MSS. should be forwarded to the Editor, "Amateur Radio," Box 2, P.O., South Melbourne.

Subscription to "Amateur Radio" is 6/- per Annum (Post Free), paid in advance. Should you not receive your Copy of "Amateur Radio," notify your Divisional Secretary at once.

Advertising and Publishing Office: Address Publicity Manager, "Amateur Radio", 126 Whitehorse Rd., Box Hill, E11. Phone: WX 2429

# Screen Grid Valves For Amateur Transmitters



Types:  
QB2/75, QC05/15

quarter of actual size

anode-control grid capacity to a minimum. When used as H.F. amplifier or frequency multiplier in controlled transmitters there is practically no reaction of the anode circuit on the grid circuit, and self-oscillation is impossible with screening outside the valve. Neutralisation is unnecessary, so it is very easy to alter the wave-length at short notice. These screen-grid valves give greater amplification than triodes under the same conditions.

Table A shows the various electrical properties of the Philips amateur transmitting valves:—

## CHARACTERISTICS:

Table A.

Type.

Screen Grid Valves

QC 05/15.

QB 2/75

Filament Voltage .....	4.0	10.0
Filament current* .....	1	3.25
Saturation current* .....	400	2,000
Anode voltage .....	400-500	2,000
Screen grid voltage .....	75-125	300-500
Max. anode dissipation .....	15	75
Anode dissipation on test .....	20	100
Max. screen grid dissipation .....	3	15
Amplification factor* .....	225	200
Mutual conductance (slope)* .....	1.4	1.4
Int. resistance* .....	160,000	150,000
Anode-grid capacity .....	.091	.02
Max. diam. of bulb .....	50	100
Max length .....	160	210

\*Approximate values.

# PHILIPS

## TRANSMITTING VALVES



## Editorial

Probably the most often occurring item on all Federal Convention agendas since their inception is the matter of 'phone on the high frequency bands. No definite solution has ever been found, and as amateur radio grows older the subject becomes more complex. The activity of the key puncher increases daily, and it is high time that we took steps to establish some agreement to the mutual benefit of all concerned.

Both the 'phone and key men have equal rights on all bands, but the argument mainly lies on what interference each is capable of creating. We all know that telephony occupies a far wider channel than telegraphy, and because its carrier is continually on the air, there can be no doubt that the former is the more selfish of the two. The quality side of the 'phone signal plays a great part in the minds of those who are not in favor of short wave 'phone. In Australia one can count on one's hand the number of high quality-fidelity 'phone stations operating on the 3.5, 7, and 14 mc bands that are really worth listening to. The rest of them are simply utter trash, and one would think that when Heising modulation is being used the plate, grid, and power supply were being modulated at the same time. Then again there is the man who spends hours taking up a large slice of the band talking to some lad 5 miles away, and both are using 60 watts. It is not a fair thing. The outcome of it is that the key puncher gets his back up when all his DX is being blotted out, and he has to content himself listening to tinny waxed music, or some chap making wierd noises by whistling down the mike. It is a wonder this sort of thing has not led to a murder or two. The next step taken by the DX-key man is to park a beautiful AC note as near on top of the 'phone man as possible as a form of revenge, so leading to hopeless QRM. So the game goes on. The

part that breaks the key man's heart is when he is participating in a contest. He doesn't mind the 'phone man jabbering away during the quiet periods, but there is a time and place for everything, and during DX hours is no time for local 'phone rag-chews.

Some, bitten by the 'phone bug, surely carry it too far when it comes to the continuous playing of records for hours on the HF's. Who is getting the enjoyment out of it? ONE man, and nobody else. If we want a musical entertainment, what is wrong with the commercial stations? We say again that 'phone' is all right when used with discretion, but the utter selfishness, consciously or unconsciously, displayed by some of the gang is beyond words. The line must be drawn somewhere, and we, the W.I.A., as the controlling body of the amateur in Australia, should find a way out of the trouble.

What is left for us? We could vote 'phone out completely on these frequencies if we don't want it, but that would not be a happy way out. Nobody is against the man who is honestly TRYING and not PLAYING. Possibly 99 per cent. of the local rag-chews are local, and have we not got bands that are tailored to order for this purpose? What is wrong with 56 or 112 megacycles? These channels were created for some reason, and we are not putting them to their best use. Why, the gear and power necessary to make a station there are half that wanted for the lower frequencies.

One of the greatest steps ever taken by the W.I.A. would be to encourage activity on the UHF's, and relieve the terrible congestion on 7 and 3.5 mc bands. These bands are ideal for a local rag-chew. Let us get this selfish spirit out of our blood and all try and do something for our own benefit. Do not wait for the other man to move to 5 metres—he'll go down there just the same if he has the genuine ham spirit.

## Amateur Phone Modulation

Heising Method Explained By  
A. E. Stevens, VK6BN, President,  
W.I.A., W.A. Division.

Modulation can be effected on the last stage handling high power, or it can be effected on a smaller valve, followed by successive stages of amplification. In the former case, the difficulty of handling large amounts of audio power in circuits containing iron core chokes, etc., has to be considered but in the case of the amateur set this difficulty does not arise, as over 25 watts or so will not cause serious concern.

### Constant Current System.

The Heising system is often referred to as a "Constant Current System." This is in theory, but in practice this does not work out 100 per cent., as will be seen later.

With Heising modulation, the positive H.T. supply flows through the iron core choke, and divides between the anode circuit of the modulator valve and the anode circuit of the modulated valve. The current does not necessarily divide equally, as the modulator valve usually draws more current than the modulated valve.

The modulator valve is a plain power audio amplifier of the class "A" type, preceded by one or two audio stages as sub-modulation. These valves are biased in the same manner as ordinary audio amplifiers; that is, to the centre point of the straight section of the characteristic curve.

The permissible grid swing is determined by the length of the straight portion, so the modulator valve should have as long a straight characteristic as possible, when the audio currents reach the modulator grid, the grid potential will be swung on either side of its mean value. This will cause the plate current to vary. When the modulator plate current increases, it draws more current from the common H.T. supply, but the self induction of the iron core choke opposes any sudden increase of current through it. This means that the extra current must be obtained from another source,

and this can only be obtained from the modulated valve.

The current on this tube is decreased by the same amount that the modulator current increases. Similarly, when the Modulator plate current decreases, the self-induction of the choke prevents any sudden decrease of current, so that the modulated valve takes more current. It will therefore be seen that, when the modulator plate current is swinging up and down during the process of modulation, the plate current of the modulated valve is also going through the same variation.

This causes the amplitude of the R.F. carrier to vary above and below its mean unmodulated value, or, in other words, the carrier is modulated by the audio frequency input. The foregoing describes briefly the action of Heising Modulation, and I will now endeavor to explain the difference between theory and practice as regards constant current.

The fact is that the Heising system is not really a perfect constant current system, as currents do flow through the choke at audio frequencies, and all the variations of the modulator plate current are not transferred to the modulated valve.

The iron core choke is not possessed of an infinite impedance; that is, it is not a perfect block to audio frequency currents. Its impedance varies with the frequency, and it is found in practice that to secure good modulation at low frequencies, it is necessary to connect a large capacity condenser between the positive H.T. supply side of the choke, and the negative H.T. Four microfarads will be satisfactory. This is generally provided as the output filter condenser. If in use, no extra capacity will be necessary. It is obvious if no audio currents flowed through the choke it would not matter what was behind the choke.



## Use of Radio Frequency Chokes.

R. F. chokes are essential in the H.T. plate leads, etc., on the modulated valves, and preferably on the modulator, to prevent any radio frequency getting back into the audio channels. Place them as near to the plates as possible. It will be seen that 100 per cent. modulation is not possible with the standard Heising scheme. Complete modulation means varying the carrier amplitude from zero to twice its normal value, which means that it is necessary to swing the plate voltage of the modulated valve from zero to twice its mean value. This can only be done if the modulator valve plate voltage varies from zero to twice its mean value. An audio amplifier cannot be operated in such a way as to have the plate voltage going down to zero on every cycle. It cannot be operated off the straight portion of its characteristic without causing distortion. This, with the fact that currents do flow through the choke at audio frequencies, and all the variations of the modulator valve does not reach the modulated valves, it is obvious that 100 per cent. modulation is not possible with the standard Heising method, and some modification is necessary to secure more complete modulation.

### 100 Per Cent. Modulation.

To secure 100 per cent. modulation, several factors must be taken into account. As previously explained, the D.C. flows through the choke, and divides between the anodes of the modulator and modulated valve. The D.C. resistance of the choke is very low, but the inductance is high. There is very little D.C. voltage drop in the choke, and the maximum H.T. is applied to the plates of the valves. If we apply modulation to the grid of the modulator, plate current will vary. These variations in plate current are equivalent to super imposing alternating currents on the steady D.C. plate current. This A.C. flowing through the choke will cause an A.C. volt drop across the choke. This building up of an A.C. voltage drop across the choke will cause the voltage on the modulated valve to vary, and modulate the carrier. It is the A.C. volt drop across the choke that causes the D.C. supply to the modulated

valve to vary, and it will be seen that the lower we make the impedances of the modulator valve and the D.C. supply, the greater the depth of modulation we can apply.

### Meeting the Volt Drop.

The volt drop is across the whole circuit filament to plate, and, as all is in series, the lower we can make the internal resistance or impedance in the H.T. supply and valves, the greater the fall across the choke. Ohms Law governing fall of potential explains this. To effect this, we can do several things. Use a low impedance modulator valve, and a H.T. supply that has a low internal resistance. A 4 microfarad condenser connected across behind the choke to the negative H.T. provides a low impedance path back to filament, and bypasses the internal impedance of the H.T. supply. As beforementioned, this is usually fitted in the outfit of the filter, and no other is required.

### Calculating Impedance.

We will see what the impedances will work out using, say, a 50 henry choke and a 4 microfarad condenser. The impedance of the choke (50 H.) is, say, at 100 cycles:—

$$Z = 2 \pi f L = 6.28 \times 100 \times 50 = 31400 \text{ ohms.}$$

In the case of the 4 m.f. condenser, the impedance at the same frequency is:—

$$Z = \frac{1}{2 \pi f C}$$

In the formula above, the units are cycles and farads, and as C is in microfarads, in this instance it is necessary to convert.

$$\begin{aligned} Z &= \frac{1}{2 \pi f C 10^6} \\ &= \frac{1}{6.28 \times 100 \times 4 \times .000001} \\ &= \frac{1}{.002512} = 398 \text{ ohms.} \end{aligned}$$

As the reactance of a condenser is always highest at the lowest frequency, I have taken 100 cycles for my example. At 1000 cycles it would be 39 ohms, so it will be seen that the impedance is very low at speech and music frequencies. Now we have

all our impedances in series between plate and filament. Say 2000 for the valve, 31,400 for the choke, and 398 or less for the condenser. It does not require much knowledge to see where the greatest volt drop will be, and the lower we can get the first and last factors the greater the percentage of modulation. If the internal impedance of the modulator valve is, say, 12,000 ohms, then the volt drop across the choke would only be about two-thirds. The importance of low impedance modulator valves is apparent. When the current through the choke is increased, it will cause the self-induced voltage to be built up. When the modulator plate current increases, the magnetic flux in the choke also increases. This flux generates a voltage in opposition to the main voltage on the modulator. Similarly, when the modulator plate current decreases, the self induction of the choke will oppose this decrease by generating an E.M.F. which will add to the H.T. supply, and raise the voltage on the modulated amplifier plate. It will be seen that what we need to do is to set up as high an A.C. voltage drop across the choke as possible. The permissible grid swing on the modulator is about equal to the negative grid bias applied.

## Adhere to Valve Ratings.

Grid currents must not flow. It is extremely necessary that the voltages recommended by the makers be adhered to both for H.T. and bias. A slight overload of H.T., with corresponding grid bias, is permissible, but less H.T. and bias limits the grid swing to a much lower value, and the valve is easily overloaded. The A.C. in the circuit will be—

$$C = \frac{U \times V_g}{R_a + 2m}$$

Where  $U$  = amplification factor of modulator valve.

Where  $Z_m$  = impedance of modulator valve.

Where  $V_g$  = grid bias.

Where  $R_a$  = Resistance of modulated amplifier.

(H.T. divided by plate current = res. in ohms.)

The A.C. flowing through the modulated amplifier will give an A.C. drop in voltage of—

$$V = \frac{U \times V_g}{R_a + Z_m} \times R_a$$

The modulated amplifier has a D.C. plate voltage normally, and the A.C. voltage superimposed will cause this voltage to rise and fall above and below its mean value. This causes variation of the carrier. If this applied A.C. voltage is equal to the applied D.C., it will assist and double the potential in one direction, and oppose and reduce to zero in the other direction. This variation from zero to double normal value, will give 100 per cent. variation to the carrier. To do this we must be able to generate the A.C. voltage across the choke equal to the applied D.C.

## Modulation Percentage.

We will now take a case where two similar valves are used, one for modulator and one for the modulated valve. We will assume the characteristics are as follows:—

Plate volts, 1000.

Plate current, .1.

Impedance (A.C.), 9000 ohms.

Amp. factor, 10.

Bias, 50 volts.

Resistance of modulated amplifier D.C. volts

$$= \frac{\text{plate current}}{1000} = \frac{.1}{1000} = 10,000 \text{ ohms.}$$

1

$$\begin{aligned} \text{The A.C.} &= C = \frac{U \times V_g}{R_a + Z_m} \text{ and the} \\ \text{A.C. voltage drop over the modu-} & \\ \text{lated amplifier equals } V &= \frac{U \times V_g}{R_a + Z_m} \\ &= \frac{10 \times 50}{10,000 + 9000} \times 10,000 = \\ &= \frac{500}{19,000} \times 10,000 = \end{aligned}$$

263 volts.

Therefore the normal D.C. voltage on the amplifier will be a swing of 263 volts above and below the mean voltage. This gives a percentage of  $263 \times 100$

$$= \frac{263 \times 100}{1000} = 26.3 \text{ per cent.}$$

This low percentage is due to the fact that the impedance of the modulator is too high, and not permitting enough variation over the choke, which is in series as before mentioned.

We will now try another valve of lower impedance. Plate volts, 1000, and the plate current on modulated amplifier, .1 amp;  $Z_m$  of modulator, 2000 ohms; and amp. factor,  $U_5$ . Bias,  $V_g$ , 100 volts. We will now have

$$C = \frac{U \times V_g}{10,000 + 2000} \times 10,000 = \frac{5 \times 100}{12,000} \times 10,000 = 416 \text{ volts.}$$

$$\text{Percentage} = \frac{416 \times 100}{1000} = 41.6 \text{ per cent.}$$

This is an improvement, but still not 100 per cent.

## Raising Percentage.

Impedances of modulator valves are limited, so we must look around to see what can be done to raise the percentage. More than half the carrier is going to waste, and for 'phone work we want to eliminate wastage as far as possible. It is far better to have a weaker carrier fully modulated than to have a strong one only half modulated. To retain the maximum power of the modulated amplifier and 100 per cent. modulation, it will be necessary to use a more powerful modulator valve using a higher plate voltage. As this voltage is common to both modulator and modulated valve, a resistance is placed in series with the lead to the modulated valve to drop the voltage on its plate to normal. This resistance is then shunted with a condenser of about 4 microfarads. The reactance of this condenser at speech and music frequencies is negligible. Although this resistance causes a drop in the D.C. voltage on the plate of the modulated valve, the superimposed audio frequency from the modulator can pass easily to swing the plate voltage of the modulated amplifier. It is now possible to increase the modulation, as the following example will show. We will make the resistance equal to, say, 10,000 ohms, and adjust the plate current to .1 as before. By doing this, the voltage on the modulated valve will be reduced by half. The A.C. will be:—

$$C = \frac{5 \times 100}{5000 + 2000} \times 5000 = \frac{500 \times 5000}{7000} = 357 \text{ volts.}$$

(Ra. of modulated valve =  $500 \div .1 = 5000$  ohms.)

The percentage modulation is this  
 $\frac{357}{500} \times 100 = 71 \text{ per cent.}$  This

means that the carrier amplitude has been reduced on account of the reduction in H.T., but the depth of modulation has been increased from 41 to 71 per cent. Where the modulated amplifier is the final stage, this reduced amplitude may be regarded as serious, but when one considers that a strong carrier with little modulation is not of much use is it not preferable to reduce it and give the modulation a chance? When it is all said and done it is the voice you want, not the squeal. If the modulated valve is followed by R.F. amplifiers, a great improvement is effected as they are actuated by a much higher level of audio excitation with a corresponding greater output. Boiled down, it amounts to this: If you want high percentage of modulation you must employ a modulator valve of low impedance, taking a H.T. voltage greater than the modulated valve, a high inductance in choke, and use a resistance to drop the H.T. on the modulated valve. Usual method of using two similar valves can only give low percentages.

**It is the PLAIN DUTY of every member of W.I.A. to support the advertisers in these pages and when doing so MENTION "Amateur Radio". Not much trouble to YOU—but it means a lot!**

## Quartz Crystals

Accurately cut and ground from the finest quartz.

Guaranteed to be cut properly with regard to the Optic axis.

200 Mx, 160 Mx, 80 Mx, £1.  
 40 Mx, £1/10/-.

Every Crystal guaranteed to give maximum output.

Blanks for any band, unground, but guaranteed to be perfect oscillators, 7/- Special quote for quantities Oscillating Blanks, 10/-.

Obtainable from

**P. R. WATSON**

(VK3PY), Box 49, Warracknabeal, Victoria.

## Federal Convention

### MINUTES OF THE 11th ANNUAL FEDERAL CONVENTION OF THE WIRELESS INSTITUTE OF AUSTRALIA.

Held at Hobart, Tasmania, 26th Jan.  
to 30th Jan., 1935.

By G. B. Ragless, FPO.

**NOTE**—The "Official Minutes" of the Convention occupy 15 pages of foolscap, and, on account of the question of space, could not be published fully. This report does not set the various subjects out in detail, but any member may, by getting in touch with his Divisional Secretary, peruse the "Official Minutes," and thus obtain a clearer idea of the discussions and decisions of the "Convention."

Convention opened at 9.30 p.m. on Saturday, 26th January, with following present:—W. M. Moore (N.S.W.), W. S. Pitchford (S.A.), J. G. Marsland (Vic.), H. M. Moorhouse (Tas.), J. N. O'Dea (proxy, Qld.), W. T. Hooker (proxy, W.A.), G. E. Ragless (Acting Fed. Sec.), F. F. Wells (Recording Sec.), and approximately 20 members of the Tasmanian Division.

Mr. Pitchford (S.A.) and Mr. Moorhouse (Tas.) were nominated for the position of chairman, in the absence of the Federal President, Mr. Moorhouse being elected.

The minutes of the 10th Annual Convention were read and confirmed.

Discussion ensued regarding hours of meeting, and additional items for the Agenda, the meeting adjourning at 10.30 p.m.

The second session of the Convention opened at 7.30 p.m., 27th January, with all the previous delegates and officers present.

The balance sheet and books of the Federal Executive were examined, and, on the motion of Mr. O'Dea (Qld.), seconded by Mr. Pitchford (S.A.), were accepted.

Mr. Pitchford (S.A.) moved, seconded by Mr. Moore (N.S.W.) that it be recorded in the minutes the approval of the excellent handling of the Federal affairs by the late Federal Executive.

Mr. Marsland (Vic.), seconded by Mr. Moore (N.S.W.), moved that the P.M.G.'s Department be approached by the Federal Council with a view to giving the Divisional Councils of the Institute power to control and prevent unsatisfactory transmissions, and that the method of control be outlined by the Federal Executive. Carried unanimously.

Mr. Pitchford (S.A.), seconded by Mr. O'Dea (Qld.), moved that the P.M.G.'s Department be approached by a representative of the Federal Council, with the view that all applications for mobile and portable licences be recommended by the Divisional Councils.—Carried, Mr. Marsland (Vic.) not voting.

Mr. Pitchford (S.A.), seconded by Mr. O'Dea (Qld.), moved an amendment that the word representative be made representatives.—Carried, Mr. Marsland (Vic.), not voting.

Mr. Marsland (Vic.), seconded by Mr. Moore (N.S.W.), moved that the P.M.G.'s Department be approached and asked to tighten up and approve existing regulations, with a view to restricting the transmission of recordings on high frequency bands.—Carried, Mr. Hooker (W.A.) and Mr. Pitchford (S.A.) dissenting, and Mr. O'Dea (Qld.) not voting.

Mr. Marsland (Vic.), seconded by Mr. O'Dea (Qld.), moved that the P.M.G.'s Department be asked to empower the Wireless Institute to control recommendations for telephony permits, and only licences so recommended be permitted this privilege.

Mr. Moore (N.S.W.), seconded by Mr. Pitchford (S.A.), moved an amendment that the motion only apply to the 200 metre band.

Amendment carried, Mr. Marsland against.

Mr. Moore (N.S.W.), seconded by Mr. O'Dea (Qld.), moved that the allocation of frequency, and control of the 200 metre telephony transmissions, be on a Federal basis.—Carried, Mr. Pitchford (S.A.) dissenting.

Mr. O'Dea (Qld.), seconded by Mr. Pitchford (S.A.), moved that Federal Traffic Channels resume service, and that a genuine chain of traffic stations throughout the Commonwealth of Australia be formed to handle Wireless Institute traffic, and that the stations so appointed make an assurance that they will be on the air regularly and that Divisional Secretaries be asked to originate traffic.—Carried unanimously.

The session closed at 10.55 p.m.

The third session of the Convention opened at 7.30 p.m., 28th January. All present.

After a long discussion on the conduct and future of "Amateur Radio," Mr. Pitchford (S.A.), seconded by Mr. Moorhouse (Tas.), moved that "Amateur Radio" should be considered as the Federal organ of the Wireless Institute of Australia, and that more publicity be provided for Federal Headquarters.—Carried unanimously.

Mr. O'Dea (Qld.), seconded by Mr. Moore (N.S.W.), moved an amendment that FHQ to supply such publicity.—Carried unanimously.

After long discussion on advertising and circulation of "Amateur Radio," Mr. O'Dea (Qld.), seconded by Mr. Marsland (Vic.), moved that "Amateur Radio" receive more support regarding the advertising and circulation from the various State Councils.—Carried unanimously.

Mr. Moore (N.S.W.), seconded by Mr. Marsland (Vic.), moved that an organisation of short-wave groups and special observers for overseas short-wave stations be formed, such to be on a

Federal basis.—Carried, Mr. Pitchford (S.A.) dissenting.

Mr. Marsland (Vic.), seconded by Mr. Hooker (W.A.), moved that the P.M.G.'s Department be asked to reduce the fees of experimental licences. — Carried unanimously.

Mr. Moore (N.S.W.), seconded by Mr. Hooker (W.A.), moved that the Customs Department be asked for duty-free entrance of experimental apparatus into the Commonwealth of Australia. All control of imported apparatus to be in the hands of the W.I.A. And that FHQ approach the Customs Department, and the results reported to State Divisions. If successful, importing to be controlled by State Councils. — Carried unanimously.

Mr. Pitchford (S.A.), seconded by Mr. Hooker (W.A.), moved that a Federal QSL Officer be permanently appointed, and that Mr. Jones, VK3RJ, be asked to Act in the position, and in the event of the new constitution being adopted, that this item be included. — Carried unanimously.

Mr. Moore (N.S.W.), seconded by Mr. Pitchford (S.A.), moved that all Divisional QSL Bureau and Federal Bureau use an official G.P.O. box number, and not a postal address, so that changes of personnel will not result in continued altering of QSL addresses and that the Federal Executive provide the fee for the Federal box.—Carried, Mr. Hooker (W.A.) dissenting.

Mr. O'Dea (Qld.), seconded by Mr. Hooker (W.A.), moved that the matter of commercial interference on the 7 mc band be brought before the P.M.G.'s Department, and that they be asked to ensure their removal.—Carried unanimously.

Mr. Moore (N.S.W.), seconded by Mr. Marsland (Vic.), moved that the W.I.A., as the ruling and official representative body, should obtain as much official recognition as possible from the P.M.G.'s Department, or other Government authorities, before the passing of any legislation or regulations affecting amateur radio generally, or the control of the licenced experimenters, and that these questions be taken up with the P.M.G.'s Department, with the view to receiving such recognition. — Carried unanimously.

Mr. Moorhouse (Tas.), seconded by Mr. Pitchford (S.A.), moved that Federal Headquarters press to have legislation provided for the P.M.G.'s Department, through the Commonwealth Government, to eliminate and suppress interference to broadcast listeners and amateurs caused by persons using any electrical equipment that may cause interference.—Carried unanimously.

The session closed at 10.45 p.m.

The fourth session of the Convention opened at 7.30 p.m., 29th January. All present.

A long discussion took place regarding BCL interference and increase in power for amateurs ended with Mr. Marsland (Vic.), seconded by Mr. O'Dea (Qld.), moving that the item be deleted from the Agenda. — Carried unanimously.

Discussion on overcharge of certain QSL cards deleted from the Agenda, on the motion of Mr. Moore (N.S.W.), seconded by Mr. Pitchford (S.A.).

Mr. Hooker (W.A.), seconded by Mr. O'Dea (Qld.), moved that a better sys-

tem of reporting signal strengths, tone and readability be drawn up with a view to having a system adopted for universal use.

Mr. Moore (N.S.W.), seconded by Mr. Marsland (Vic.), moved an amendment that Federal Headquarters find a better method of reporting signals, and forward same to IARU, after submitting same to the State Divisions. Voting—For: Mr. Moore (N.S.W.), Mr. Marsland (Vic.), Mr. O'Dea (Qld.). Against: Mr. Pitchford (S.A.), Mr. Hooker (W.A.), Mr. Moorhouse (Tas.). The chairman cast his vote against the amendment, and the motion was carried, with Mr. Pitchford (S.A.) dissenting, and Mr. Moore (N.S.W.) not voting.

Mr. Pitchford (S.A.), seconded by Mr. O'Dea (Qld.), moved that in cases of interference it should be first ascertained by the P.M.G.'s Department that suitable equipment is being used as outlined by the Madrid Convention.—Carried, Mr. Marsland (Vic.) dissenting.

Mr. Pitchford (S.A.), seconded by Mr. Moore (N.S.W.), moved that the 1936 Federal Convention be held in Queensland, at a date to be fixed.—Carried, Mr. Marsland (Vic.) dissenting.

Mr. Marsland (Vic.), seconded by Mr. O'Dea (Qld.), moved that a Liaison Officer be appointed to represent FHQ at the P.M.G.'s Department.—Carried, Mr. Pitchford (S.A.) dissenting.

Motions by Mr. Marsland, that Federal Headquarters be located in Adelaide, and by Mr. O'Dea in Melbourne, both lapsed.

Mr. Pitchford (S.A.), seconded by Mr. Moorhouse (Tas.), moved that Federal Headquarters for the ensuing twelve months be located in New South Wales.—Carried, Mr. O'Dea (Qld.) and Mr. Hooker (W.A.) dissenting.

Mr. Moore (N.S.W.), seconded by Mr. Pitchford (S.A.), moved that the Official Minutes of the 1936 Convention be published in "Amateur Radio."—Carried unanimously.

Mr. Moore (N.S.W.), seconded by Mr. O'Dea (Qld.), moved that Federal Headquarters approach the P.M.G.'s Department again about QRO licences, on lines previously attempted.—Carried, Mr. Marsland (Vic.) dissenting.

Mr. Moore (N.S.W.), seconded by Mr. Hooker (W.A.), moved that Federal Headquarters conduct an Annual DX Contest along similar lines to the recent Centenary Contest. — Carried unanimously.

The session closed at 10.45 p.m.

The fifth and final session of the Convention opened at 4 p.m., Wednesday, January 30th. All present.

Mr. Moore (N.S.W.) gave a lengthy explanation of the position regarding the old W.I.A. in his State, also explaining the conduct of the A.R.A.

Mr. Marsland (Vic.), seconded by Mr. O'Dea (Qld.), moved that, as Federal Headquarters is now located in N.S.W., the Federal Executive use their own discretion as to the most suitable means of obtaining the use of name, "Wireless Institute of Australia, New South Wales Division."—Carried unanimously.

Mr. Moore (N.S.W.), seconded by Mr. Pitchford (S.A.), moved that the proposed Constitution be referred to Divisional Councils for adoption, and their decisions reach the Federal Secretary

not later than March 31st, 1935.—Carried unanimously.

Mr. O'Dea (Qld.), seconded by Mr. Marsland (Vic.), moved that Rules Nos. 2 and 3 of the IBERU, 1935 Contest be enforced.—Carried unanimously.

Mr. Pitchford (S.A.), seconded by Mr. Hooker (W.A.), moved that the appointment of the Federal Executive be left in the hands of the A.R.A. Council.—Carried unanimously.

Mr. Moore (N.S.W.), seconded by Mr. Pitchford (S.A.), moved that delegates of Divisions who have not paid per capita payments be asked to explain on behalf of their divisions.—Carried unanimously.

Mr. Moorhouse (Tas.), and Mr. Marsland (Vic.), both gave reasons for non-payments of per capita by their divisions. The proxy delegates, Mr. O'Dea (Qld.) and Mr. Hooker (W.A.) could not offer any explanation on behalf of their divisions.

The Acting Federal Secretary, Mr. Ragless, read correspondence on this matter.

Mr. Moore (N.S.W.), seconded by Mr. Pitchford (S.A.), moved that, as the finances of Federal Headquarters are in such a precarious state, the delegates be asked to present most forcibly the necessity of these payments, and if these payments are not made during the ensuing year, that the Constitution be followed closely, and unfinancial States be not allowed a delegate at the next Convention.—Carried. Mr. Marsland (Vic.) dissenting, and Mr. O'Dea (Qld.) not voting.

Mr. Pitchford (S.A.), seconded by Mr. Marsland (Vic.), moved that a vote of appreciation be extended towards the chairman for his conduct of the meetings.

Mr. Marsland (Vic.), seconded by Mr. O'Dea (Qld.), moved that the visitors wish it recorded in the minutes their appreciation of the hospitality extended by the members of the Tasmanian Division of the Wireless Institute.

Mr. O'Dea (Qld.), seconded by Mr. Marsland (Vic.), moved that a vote of thanks be extended to Mr. Wells, the recording secretary, in appreciation of his services.

All the three above carried unanimously.

The 11th Annual Federal Convention was closed by the chairman at approximately 7.30 p.m., January 30th, 1935.

## CENTENARY CONTEST ERRATUM.

In the list of station scores of the VK stations in the February issue, VK2WJ should read VK5WJ; and VK5GW's score of 11,000 should be inserted in its order.

## BEAT THIS, "HAMS"!

Miss McKenzie, aged 12 years, daughter of 4GK, has just obtained the A.O.P.C. Her results were exemplary, and a pattern for all: Sending, 98 per cent.; Receiving, 90 per cent.; Regs., 70 per cent.; Theory, 78 per cent. Look for 4YL and watch your step!

## Federal Headquarters Notes

### THE FEDERAL EXECUTIVE.

The Federal Executive has so far had little time to do any large amount of work, but a few matters of importance have been dealt with.

### RECORD BROADCASTING.

The combined gramophone companies have been approached with a view to getting a concrete statement of their attitude towards the playing of records by radio amateurs. A letter was received from the A.R.A. (N.S.W.) asking the Federal Executive to move in the matter, as they considered it of a Federal nature. This has been done, but so far nothing definite has been attained.

### THE W.I.A. OF N.S.W.

Arising out of the Federal Convention, and at a request from the A.R.A., the Institute of Radio Engineers has been written to endeavoring to obtain something definite about the name W.I.A. (N.S.W. Div.). From personal contact it is ascertained that not much difficulty will be experienced in obtaining the name so that the name W.I.A. will be uniform in Australia.

### W.A.C. CERTIFICATES.

The Federal Executive wishes to point out that applicants for this Certificate must be members of their local Division of the W.I.A. before their applications can be accepted. Non-members cannot possibly obtain this Certificate, as the I.A.R.U. states definitely that applicants must be a member of the local governing body where this body is affiliated with the I.A.R.U. In Australia this is the W.I.A. or the A.R.A.



VK 3MR

## What is a "Country"?

By VK3ML, Traffic Manager,  
Victorian Division.

Of the many "spirits" that exist in Ham radio to-day, one might safely say that the spirit of friendly rivalry is perhaps one of the strongest. Most certainly does this particular spirit predominate when it comes to boasting of the number of countries worked. At some stage of our Ham life we have all strived to rope in as many countries as possible; even going to the extent of classifying some remote spot, either surrounded by water or by land, as being a new "country." That is all right; but the world is full of "possessions," protectorates, mandated territories, and the like, and one is naturally tempted to "claim" an odd country here or there. Thus the world could go on and the Hams with it, forever digging up new countries.

The main and serious reason why we have been promoted to take this matter up and offer some definite and concrete classification of the world's countries for your consideration, is that the Centenary Contest Committee made a recommendation that steps should be taken to clear the whole matter up so as to avoid any possible headaches in the 1935 W.I.A. International Contest! We agree in the main; there is no decent amateur international list of countries, and it is high time that the amateur world be put in order.

An excellent effort, and an attempt that deserves much praise, is that belonging to W9ADN, who, in Californian "Radio" for August, 1934, offered the fraternity the very thing we are looking for—a well defined grouping system of the countries of the world. Obviously, W9ADN has given a large amount of thought to this question, and those who have studied the article will appreciate all the difficulties he had to overcome. Maybe the system is not perfect, yet it IS an effort, and the world could do well by adopting it as a provisional standard. A tentative standard list is far better than none at all, and it is almost certain that future international contests of the W.I.A., sponsored by the Victorian

Division, will stipulate in the rules that W9ADN's list will be used for checking purposes.

- 1 Aden.
- 2 Afghanistan.
- 3 Alaska, including Aleutian Islands, Pribilof Islands, St. Lawrence Islands.
- 4 Albania.
- 5 Algeria.
- 6 Andora.
- 7 Anglo-Egyptian Sudan.
- 8 Ascension Island.
- 9 Australia, including Norfolk Island, New Britain Archipelago, Admiralty Islands, New Ireland, New Britain, Solomon Islands, Santa Cruz Islands, Australia mandated territory of New Guinea.
- 10 Austria.
- 11 Azores.
- 12 Bahamas, including Little and Great Abaco, Great Bahama, Eleuthera, Cat, Watling, Rum Cay, New Providence, the Exuma chain, Long Island, Andros, Crooked Islands, Mayaguana, Inagua.
- 13 Barbados.
- 14 Basutoland.
- 15 Bechuanaland Protectorate.
- 16 Belgian Congo.
- 17 Belgium.
- 18 Bermudas.
- 19 Bismarck Archipelago.
- 20 British Honduras.
- 21 British Somaliland.
- 22 British Guiana.
- 23 Canal Zone (Panama Canal Zone).
- 24 Cape Verde Islands.
- 25 Ceylon.
- 26 Costa Rica.
- 27 Cuba.
- 28 Cyprus.
- 29 Danzig.
- 30 Denmark.
- 31 Dominican Republic.
- 32 Dutch (Netherlands) East Indies, including Bali, Banka, Billiton, Dutch Borneo, Celebes, Java, Dutch New Guinea, Sumatra, etc.
- 33 Dutch Guiana.
- 34 Dutch (Netherlands) West Indies, including Aruba, Bonaire, St.

# Amateur Radio

- Eustatius, Saba, Dutch part of St. Martin.
- 35 Egypt.
- 36 Eritrea.
- 37 Esthonia.
- 38 Ethiopia.
- 39 Falkland Islands.
- 40 Faroe Islands.
- 41 Fernando Po and Spanish Guinea.
- 42 France (including Corsica).
- 43 French Cameroons.
- 44 French Equatorial Africa.
- 45 French Guiana.
- 46 French Indo-China, including Annam, Cambodia, Cochin-China, Laos, Tonkin.
- 47 French India — Chendernagore, Karikal, Mahe, Pondichery, Yanaon, Calicut.
- 48 French Settlements in Oceania—Gambier Archipelago, Marquesas Islands, Tuamotu, Leeward Islands (French), Society Islands (including Tahiti), Tubuai.
- 49 French Somaliland.
- 50 French West Africa, including Senegal, French Guinea, the Ivory Coast, Dahomey, the French Sudan, Haute-Volta, Mauretania, Niger, French Togoland.
- 51 Gambia.
- 52 Gibraltar.
- 53 Gilbert and Ellice Islands—Indl. Line Islands, Palmyra, Washington, Fanning, Christmas Islands.
- 54 Gold Coast Colony, including Ashanti and Northern Territories.
- 55 Great Britain and Northern Ireland, including England, Scotland, Wales, and Northern Ireland.
- 56 Greece, including Crete.
- 57 Greenland.
- 58 Guadeloupe, including La Desirade, Les Saintes, Marie Galute, Basse-Terre, Grande-Terre, St. Bartholomew, French part of St. Martins.
- 59 Guam.
- 60 Guatemala.
- 61 Haiti.
- 62 Hejaz, Nejd and Dependencies.
- 63 Honduras.
- 64 Hongkong, including Kowloon.
- 65 Hungary.
- 66 Iceland.
- 67 India, including Burma, Bhutan, N.W. Frontier Prov., Brit. Baluchistan, Andaman, Nicobar, Laccadive, and Maldivé Islands.
- 68 Nepal.
- 69 Iraq.
- 70 Irish Free State.
- 71 Italian Somaliland.
- 72 Italy.
- 73 Jamaica, including Cayman Islands, Turks, Caicos Islands.
- 74 Japan.
- 75 Kenya.
- 76 Latvia.
- 77 Leeward Islands, including Anguilla, Antigua, Barbuda, Dominica, illa, Antigua, Barbuda, Dominica, Montserrat, Nevis, Redonda, St. Ketts, Virgin Island (British part).
- 79 Liberia.
- 80 Liechtenstein.
- 81 Lithuania.
- 82 Luxembourg.
- 83 Macao.
- 84 Madagascar and Dependencies (Ste. Marie-de-Madagascar, Nossi-Be, Comoro Islands).
- 85 Madeira Islands.
- 86 Malay States.
- 87 Malta.
- 88 Marianas or Ledrones, Marshall and Caroline Islands.
- 89 Martinique.
- 90 Mauritius.
- 91 Mexico.
- 92 Morocco (French).
- 93 Morocco (Spanish).
- 94 Morocco (British).
- 95 Netherlands.
- 96 New Caledonia.
- 97 Newfoundland, including Labrador.
- 98 New Hebrides, including Banks and Torres Islands.
- 99 New Zealand, including Nauru.
- 100 Nicaragua.
- 101 Nigeria, including British Cameroons, Lagos.
- 102 Norway, including Spitzbergen Arch.
- 103 Nyasaland Protectorate.
- 104 Palestine.
- 105 Panama.
- 106 Paraguay.
- 107 Persia.
- 108 Peru.
- 109 Philippine Islands.
- 110 Pitcairn Island.
- 111 Poland.
- 112 Porto Rico.
- 113 Portugal.
- 114 Portuguese East Africa (Mozambique).
- 115 Portuguese India (Goa, Daman, Diu).
- 116 Portuguese Timor.
- 118 Portuguese West Africa (Angola).
- 119 Reunion (Bourbon) Island.
- 120 Rhodesia, Northern.
- 121 Rhodesia, Southern.
- 122 Rumania.



- |   |   |
|---|---|
| <p>123 St. Helena.<br/>         124 St. Pierre and Miquelon.<br/>         125 St. Tome and Principe, including Saramé.<br/>         126 Saar Territory.<br/>         127 Salvador.<br/>         128 San Marino.<br/>         129 Serbs, Croats and Slovenes, Kingdom of (Czechoslovakia).<br/>         130 Seychelles, including Admirantes, Cosmoledo, Aldabra.<br/>         131 Siam.<br/>         132 Sierra Leone.<br/>         133 Spain.<br/>         134 Swaziland.<br/>         135 Sweden.<br/>         136 Switzerland.<br/>         137 Syria, including Lebanon, Alauites.<br/>         138 Tanganyika Territory.<br/>         139 Tonga (Friendly) Islands.<br/>         140 Trans-Jordan.</p> | <p>141 Trinidad, including Tobago.<br/>         142 Tunisia.<br/>         143 Turkey (Asian and European).<br/>         144 Uganda.<br/>         145 U.S.S.R., including Moldavia, Bashkir, Tartar, Kirghiz, Dagestan, Crimea, Vakutsk, Karilian, German Volga Settlements, Buriat (Caucasus) Mts., Georgia, Azerbaijan, Armenia.<br/>         146 Union of South Africa, including Cape Province, Natal, Zululand, Amatangaland, Orange Free State, Transvaal, British Bechuanaland, Tristan Da Cuba, South West Africa.<br/>         147 Uruguay.<br/>         148 Venezuela.<br/>         149 Windward Islands, St. Lucian, St. Vincent, Grenada, Grenadines.<br/>         150 Zanzibar and Pemba.</p> |
|---|---|

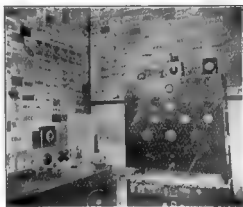
## Station Description

VK3JQ.

### Third in Centenary Contest.

The transmitter is the usual 4-stage job, using a 47CO 46FO 10 buffer and 203A five amp., which runs usually at from 50-80 watts input. A lease of long life being put on this tube, HI 1 link coupling is used between last two stages, and battery bias throughout. Keying is done in the centre tap of either doubler or PA, and the usual filter of choke and condenser is used, no trouble being experienced with thumps. A separate power supply is used for each stage. U8s are used as rectifiers, except for last stage, where a pair of GV1s handle the 1000 volts. The bank of 10 watt pilot lamps seen in the photograph are used as bleeder resistances across each supply, instead of voltage dividers. For 14MC work, I have found that the 203A works much better as a doubler than PA, and so the last coil is so designed that it will tune to both 7 and 14 MC. Two DPDT switches in lappings of HT trans. cuts the voltage down to about 700 when using PA as doubler, and another switch brings in an extra 60 volt B battery for more bias. This is all that is necessary to move from 40 to 20, and can be done in about 8 seconds. An absorption type wave meter can be seen on top of x-mitter. The whole rig is mounted on 6 in. auto-tray wheels, and can be pushed

about for making any adjustments. The receiver is a home-made 8-tube S.S. super, complete with x-tal at 525 KC, and certainly was a great help during test, the x-tal cutting out much of the mush picked up from the 30,000 volt power lines running past my QRA to Warrnambool. A Monitor using type 30 valve is seen standing



on top of receiver. The station has been on the air about 17 months, and 53 countries have been landed to date. All conts. being worked several times. Two 1/2 wave 40 ants are used 58 feet high, one N.E. and S.W., which is O.K. for Europeans, and one N. and S., for Yanks. Feeders are 51 feet long, and tune O.K. for both 20 and 40.

## Typical Topicals

---

By "The Listener"

### THE ACORN TYPE 955.

(Concluded from last issue.)

As an amplifier, the 955 is applicable to the audio or radio-frequency stages of short-wave receivers, especially those operating in the band between 0.5 meter and 5 meters.

As a detector, the 955 may be of the grid-leak-and-condenser type, or of the grid-bias type. For the former, conventional operating conditions with a plate voltage of 45 volts are suitable. For the grid-bias type, a plate-supply voltage of 180 volts may be used, together with a negative grid-bias voltage of approximately .7 volts. The plate current should be adjusted to a little less than 0.2 milliamperes, with no input signal voltage. If self-bias is used, a suitable value of cathode resistor is 50,000 ohms.

As an R-F or A-F Amplifier—Class A—or as an Oscillator or R-F Power Amplifier (Class C), the 955 is operated with plate voltage up to 180 max. As a Class A Amplifier with max. plate voltage, the grid voltage is .5, and a note is made that the d-c resistance in the circuit should not exceed 0.5 megohm. The plate current is 4.5 milliamperes, the plate resistance 12,500 ohm, the mutual conductance 2000 microhms, load resistance 20,000 ohms, with a U.P.O. of 135 milliwatts.

As R-F Power Amplifier—Class C—an Oscillator Plate Modulated, or C.W., we note the d-c plate current and d-c grid current are quoted as max. 8 and 2 milliamperes respectively. The power output is approximately 0.5 watts at 5 meters, with only a moderate reduction in this value on wavelengths as low as 1 meter. Below 1 meter the power output decreases as the wavelength is decreased.

Pay particular attention in this issue to Alan S. Duke's talk all about the Universal Rectox Instrument for A.C. or D.C., voltage, current, or resistance measurements. Believe me, hams, your attention will pay you.

### AUSTRALIAN ENGINEERING EQUIPMENT CO.

Attention is drawn to an interesting notification in this issue from the above concern, which has now become another of our regular advertisers. The notification refers to the famous "Kester" plastic solder, noted for its efficacy with the joints of radio sets. The Birnbach Insulators are also stocked, while the firm reports the usual brisk business, which never "lets up" day or night, in their popular T.C.C. condensers.

### P. and L. WIRELESS SUPPLIES

Attention is drawn to the advertisement on another page of this old-established firm, which has quite a lot on its shelves at 11 Hardware St., Melbourne, to interest amateurs. Their prices are remarkably moderate, and their big stock, constantly turned over offers a wide choice. An interesting department is that devoted to local and overseas publications devoted to radio, short wave, and the like.

### NOYES BROS.

I had an interesting preliminary chat with Mr. E. B. Foster, of the above popular concern, who has returned from his trip abroad. More of our chin-wag will appear in next issue. While away Mr. Foster visited the establishment of Messrs. Crompton Parkinson Ltd., of Chelmsford, and Ferranti Ltd., of Hollinwood, sponsors of the goods which worthily bear their name; and which are handled just as worthily by Noyes Bros. While in England Mr. Foster visited Leeds, where after some years of separation he met his parents and family. While aboard ship our friend attained the dizzy honor of manager of the Melbourne Cup Sweepstakes, and has a good story to tell of the numerous winners which, allegedly, came over the air.

Visitors to Melbourne during the month included Messrs. Alan Hutchings (3HL), winner of the handicap section of the contests, who fiddles the dial at Callawadda, Vic., Brebner (8JQ), Belmont, Geelong, and C.F. Emery (3GQ), Camperdown, Vic. The latter is the live local representative of the Stromberg Carlson goods.

Mr. Ken Dyer reports increasing business in the transmitting department of Philips Lamps for Victoria, of which important department he is in charge. Well-known to amateurs, the big Holland concern, world renowned for its lamps, valves, Neon, and X-ray, has long ago proved itself indispensable to Australian radio interests.

Get in touch, often, with Vealls, who want you to know some more about the rather unusual Hickok Radio Meters. Not to know about them argues yourself unknown.

Solve all your instrument problems by allowing Siemens (Aust.) Pty. Limited to diagnose your worries and troubles. Meet them face to face in this issue.

Fresh information for your technical literature requirements herein from McGill's Agency, Melbourne's leading technical book and journal rendezvous in Elizabeth Street. If there's a book published on refrigeration in Iceland, McGill's will have it.

Cast your supercilious eye over the Quartz Crystal notifications of Mr. Maxwell Howden (3BQ) and Mr. P. R. Watson (3PY) and crystallize your requirements in this direction, and—read the Hamads in this issue. Attention to them will pay handsome dividends.

**SUPPORT  
YOUR  
ADVERTISERS**

# VEALLS announce HICKOK RADIO METERS

Laboratory Accurate, Acknowledged  
as the highest standard of quality by  
Amateurs and Radio Fans in  
America to-day.

Obtainable at Vealls for prices  
far below the average cost

## MODEL 46 DC INSTRUMENTS

D'Arsonval Movement  
Milliammeter, Ammeters, Microammeters,  
Galvanometer, and Voltmeter (Resistance 1333  
ohms per Volt)

FROM £3-5-0

## MODEL 47 DYNAMOMETER AC INSTRUMENTS

Covering the same range as 46 Type  
FROM £3-5-0

## MODEL 47T

Thermo. Type Instruments

## MODEL 47X

Rectifier Type Instruments

Also ANALYSERS, OSCILLATOR  
and TUBE CHECKERS

Write for Illustrated Price Lists  
and full Particulars

# VEALLS

243-249 Swanston St., Melbourne  
168 Swanston St., Melbourne  
299-301 Chapel St., Prahran  
3-5 Riversdale Rd., Camberwell  
Cent. 3058 (6 lines), 10524,  
Wind. 1605, W 5160.

## Operating and Experimental Section

Conducted by VK3WY.

The main feature throughout the past month has been the annual Yank contest. This resulted in a glorious mess of QRM on the 7 and 14 mc. bands. The most active stations in VK3 seemed to be 3ML, 3MR, 3YP, 3GQ, 3EG, and 3KK.

One thing the test seemed to show out was the value of a S.S. Super.

One of the nice things noticed this year was the big improvement in the notes of the majority of the W. sigs. Unfortunately this could not be said for some of our own stations, however, as it was noticed that several who usually have a decent clean-cut sig. seemed to have changed over to a rather rough RAC for the contest. This certainly made things rather less pleasant for the rest here, and certainly didn't help the VK's overseas reputation for decent sigs.

It was found to be comparatively easy to contact all W districts, and VES, 4 and 5, but very few I believe landed VE1 and 2—they seemed to be as scarce as proverbial hen's teeth!

Conditions on the bands may be summarised as follows:—

3.5 mc.—QRN seems to reign supreme at present, although he is closely followed by a few energetic fone stations. During the contest a few W's were heard on this band, but they were very difficult to copy, and I didn't hear of any of the VIM Hams raising them.

7 mc.—This band has been fairly good in the evenings, and VE and W were worked up till about 1 a.m. Early morning DX on this band has nearly disappeared for the present.

14 mc.—The good DX which we have been enjoying on this band during the evenings has practically disappeared, except for a few W's just before midnight; between 1600 and 1800 the Europeans are fairly good.

### 28 and 56 MC. Section

Conducted by VK3JJ.

After an absence of almost five years, real DX has again started to break through on 28 mc., the first signals being heard on March 10. VK3BW reported a weak signal at 9.30 a.m., calling VK2LZ, and later J2IS was logged at good strength by 2LZ and 3BW. The signals from J2IS were very unstable and drifted out of the band, which probably accounted for other VK's missing them. Shortly after that a station signing O71AA was heard by VK3NM, but he was unable to get the second letter in the call.

The following Sunday the first VK/DX 28 mc. contact since 1930 was made between VK3BW and J2HJ. The former was reported R5, while the strength of J2HJ varied from R6 to R2, and faded in Vic. shortly after 10 a.m. The commercial harmonics of JNJ, TDC, and JAY, which have been very consistent this season, were in-

audible on this day. This leads one to think conditions were none too good, so perhaps the J's are just making a start on 28 mc.

VK's should make every effort to keep on this band for at least two months yet, as conditions at this time of the year are generally similar in both hemispheres. Many W's are active, and they are most likely to come through in April, May, and June.

VK3XK has been very consistent lately, and now that a doubtful 210 has been replaced with a 171a, the signals are much more stable and two points stronger. 3NW is putting out good signals locally, with only 8 watts input to a 47. A difference of 25 degrees direction of 3WL's antenna is sufficient to drop the strength of signal from R6 to R2 at 3JJ. VK3YP (old 3CP) intends making another start on 28 mc., and is at present working on a rotary beam antenna. He had plenty of experience on 28 mc. in 1929, and was the first VK to work U.S.A. on this band.

On 56 mc., VK3KQ seems to be getting the best results, and the signals are good strength at 3OF, 3JG, and 3LG. The transmitter is pp 210's grid modulated, no capacity is used across the tank coil which is in the form of a large loop and coupled to a half-wave 14 mc. vertical antenna. 3JG and 3LG have type '19 tubes in transceivers. VK3RS is using a small portable in tests with 3KQ, but so far they have been unable to work over any great distance. VK3KW is hopeful of getting through to Melbourne with the aid of a beam antenna similar to those recently described in "QST." At a location two miles from the transmitter the signals are inaudible with the beam broadside on, but on changing it to the direction of the receiver, signals immediately jump to R max. 3BW and 3JJ are just about ready for 56 mc., the former having yet to complete a transmitter, while the super regenerative receiver at 3JJ is being remodelled for the fourth time.

### INTERNATIONAL 28 MC. CONTENT.

Points scored in January and February:—VK4RB 66, VK3RW 26, VK3JJ 21, VK2HY 18, VK2LZ 18, VK3WC 17, VK3NM 9, VK3WL 9, VK3OF 8, VK2XY 4.

\*\*\*\*\*

Correspondents are again reminded that notes must be in the hands of the Editor NOT LATER than the 18th of each month. This month notes from VK3 Phone Section and VK6 Division arrived too late for publication.

\*\*\*\*\*

## Victorian QSL Bureau.

STOP PRESS

R. E. JONES, VK3RJ.



Cards are on hand at the Bureau, 23 Landale St., Box 1111, for the following Victorian stations, and will be forwarded on receipt of the necessary postage:—

3AT, AX, BF, BK, BL, BX, CF, CM, CN, DD, DK, DL, DQ, EG, EM, EP, EQ, ES, ET, FC, FH, FM, FW, GE, GJ, FM, GU, GW, HE, HK, JX, KG, KI, KO, KQ, KY, LG, LP, LT, LX, LY, MX, MZ, NG, NW, OP, OZ, PC, PL, PW, PZ, RW, SP, SK, TK, TM, WP, WN, XK, ZF, ZJ, ZK, ZL, ZO, Messrs. Simms.

At the recent W.I.A. Convention held in Hobart, the Federal Bureau was changed from Adelaide to Melbourne, with address as above. It is the intention henceforth to refrain from altering the location of the Federal Bureau. VK3RJ was appointed Federal QSL Manager.

G5RV would appreciate reports from VK listeners on his 7 mc. and 14 mc. sigs. All reports will be acknowledged. His QRA is 19 Springfield Park Av., Chelmsford, Essex, England.

As a result of the multitudinous go-r-tests held during the last six months, the work of the Bureau has been quadrupled, and stations are asked to facilitate its work by claiming cards promptly and by observing the rules laid down in a recent article on the Bureau's activities.

Gippsland stations, and those in the North-east and Central North of Victoria, may expect a visit from the writer during the month of April.

Sunday, 24th March saw the blanket definitely lift on 10 mx conditions. Spasmodic bursts of DX have been coming through for the past three weeks, but nothing approaching Sunday's conditions have been experienced since 1929. The irony of Sunday was the fact, firstly, that VK3YP who worked W6VD at 9.30 a.m., had not been on 10 mx since he worked his last W there in 1929, and secondly, that VK3BD, who is surely one of "ten's" staunchest supporters was away for the week end. W6VD was the first DX to come through and he was worked by VK3BW, VK2EP, ZL 2GD and VK3NM in rapid succession after the contact by VK3YP. And list, you DX fiends, the MINIMUM report either way was R8, and the Yank reported VK2 EP's fone as R9 !! Between 9.30 and 10 a.m. VK2LZ worked W9NY and W2TP. The latter contact is believed to be the longest distance contact yet made on this band. Later, J2HJ and J2IS came through and were contacted with the same ease as the W's. One interesting feature of the day's work was the fact that no VK's using self excited transmitters "got across."

Summarising the contacts, W6VD worked VK3BW, VK3YP, VK2EP, ZL2GD, and VK3NM. VK2LZ worked W9NY, W2TP. VK3BW worked W6VD, J2HJ, ZL1BA, ZL2KK, ZL 2BN. VK6SA worked J2IC. VK3JJ worked ZL1BA, and ZL2KK. The W's period lasted from 9.30 a.m. to 11.30 a.m., and the J's from 2 p.m. to 6 p.m.

## AMATEURS !!!

Are you on the best buying basis for your requirements?

If not, you will find that our prices compare more than favourably with what you now pay.

We carry a large range of publications both local and American, devoted to Amateur Radio, short wave, etc etc.

**P. & L. WIRELESS SUPPLIES PTY. LTD.**  
11 Hardware Street, Melbourne, F 4323

(New Price List just available. If you did not receive one let us have your address)

## Station Description

### VK2WT—TENTERFIELD.

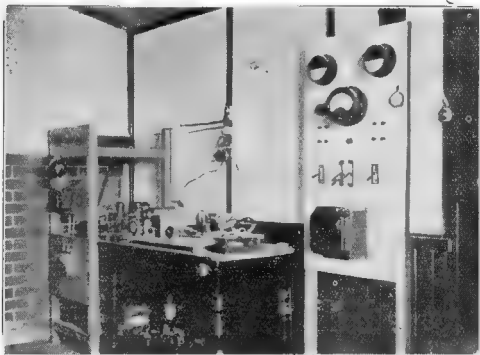
A Transmitter first took the air from Warranfields Tenterfield in 1924, signing A2WT. This Transmitter consisted of a 201A and 120 volt accumulator batteries for High Tension.

Among the most interesting memories of this time was A2CM's trip across the Pacific, Schnell's visit to Australia and the first trans-Pacific Tests, and on the good old 32 mx. band 2 or 3 watts was all that was necessary to get R5 and R6 reports from the 201A Xmitter.

The transmitter at present in use operates on both 3560 kc. and 7120 kc. A type 59 Tritet oscillator, 59 buffer and DO/40 final amplifier and the modulator portion which modulates the final is a pair of 210s in Class B, and the tubes driving this are 354 and L86A. All the filament are lit from the ordinary 50 volt D.C. house-light-

ing, and shunt resistors are used where the current is too high. The plate supply for the 210s and DO/40 is obtained from a 1000 volt Esco generator, motor driven. All other supplies are obtained from a Rotary Converter and usual rectifying systems. Some original S tubes are still in use.

The Receiver consists of 78SGRF 77 E.C. Det. and 354 V. Audio, and the plate supply from a small motor generator which is home wound and was originally made from a 10 volt to 350 volt job, the primary and secondary being rewound for 50 volt D.C. and 200 volt D.C., and is about 50 per cent. efficient, but proves very successful, as it is silent even down to 10 metres.



## Divisional Notes

### Association of Radio Amateurs

#### NOTES FROM HEADQUARTERS.

By 2HZ.

The ballot papers for the annual general meeting of the A.R.A. have been completed and forwarded to all members for voting.

At present there is a notice of motion on the books regarding the raising of the annual subscription. Many and varied are the expressions on the subject, so it is in the laps of the gods whether the subscription is raised or not.

2YC, our efficient QSL officer, is not standing for re-election to the Council, owing to pressure of business.

The second annual dinner held at the Dungowan, Martin Place, was a great success. Some 80 Hams attended, and representatives from Waverley, Zero Beat, Manly, Lakemba, and Newcastle Amateur Radio Clubs, besides representatives from the Radio Telegraphists' Institute and Australian Inland Mission.

2UX, Mr. Goyen, the A.R.A. President, was in the chair, and a little business was disposed of first. The usual toast to the visitors was replied to by the Rev. Flynn, well known as "Flynn of the Inland," who described some of the work done by the amateurs in the science of radio as applied to the outbreak.

Ray Carter (VK2HC) proposed the toast to International bodies, and during his speech mentioned the successes of the I.A.R.U. and B.E.R.U. Mr. C. D. Price, G6PC, replied, stating that he was very glad to be amongst such a gathering of amateurs.

The country Hams were well represented: 2HC (Quirindi), 2FN (Tumut), 2BP (Hazelbrook), and 2YS and 2ZC (from Newcastle).

#### ZONE 2 NOTES.

ZO—VK2HV.

VK2XQ, the most western Ham in Zone 2, will soon be making things buzz at Walgett. John is on the track of a rotary converter, and with a bit of luck he should land one very soon.

Old Ray, of VK2HC-2BE, has been in Sydney. The old familiar voice hasn't been heard on 80 metres for ages now!

Ivan, of VK3EG, old 2EG, has rebuilt his rig and is working DX in fine style from his great location in VK3.

Tamworth now boasts a gang. VK2GU is the latest addition to that centre. VK2DD is also a new one up that way. Toddy and Jack, of VK2CR, have not been QRT through the summer; they have been up on 80 metres, braving the QRN, and are turning out some real good telephony. Speaking of 80, three K6 stations, two W6's, and a couple of VE's have been heard on that band at R4-7 from VK2ZP during

the last few nights; all were QSA5 and on phone. VK2ZP now has an energetic second op.

VK2NA has left Delungra, and will be going to Kensington.

VK2HJ has gone to VK4, and was not heard at all from Quirindi.

VK's 2RV and 2NF are on a little from Werris Creek. Both are QRL with exams, but hope to be on Xtal for the winter.

Mac, of VK2ZH, and 2KR, are rejoicing, as Gunnedah has 240 A.C. at last. Cess is QRP no more; his beefy sig. now rocks in at 2HV QSA5, and always R6-8. "Willie" Picknell, the second op. of 2HV, is shortly going to ZL, and hopes to be there for at least a couple of years.

Would all the chaps in this zone please send in dope on their doings, station descriptions, etc., for publication in this mag. to me on or before the 10th of each month, and don't forget to tell any radio minded friends about "Amateur Radio."

Send your subs. to VK2HV, Byron St., Inverell.

#### ZONE 3 NOTES.

ZO—VK2OU.

QRN has been very bad this month, only one or two nights being reasonably free.

Nothing has been heard of the local gang except that 2ZM had a portable on his holiday. 2GI supplies this one. A BCL, on seeing a tube rocking in a spring socket, asked if that was what was meant by a tube being "in a state of oscillation"!!!

2ZC was overheard talking to W8BTL.

2JO has been heard again. The first time I've heard him for six months.

Another old-timer heard was VK6MB.

VK2BP is giving Ham radio a rest, and when I was QSO was using QRP to his exciter unit for TX. Eric will be in the first few in the W.I.A. 8-point relay with well over 600 points.

2UY was heard R max.; very nice to copy, but very broad.

2EJ is a new Ham putting out a very solid Xtal sig. with a pair of 46's in PP P.A.

4PK puts out very nice fone, using PP46's in PA mod. by 250. One night the shack temperature was about 85 deg., and W6GXV told me that he was sick of extra blankets and ear muffs.

VK2OO has put in a 59 in tri-tet and finds it FB, but uses a 47 as regen. doubler in place of another 59. Also been trying separate heterodyne osc. in receiver, and finds that the sig. noise ratio is much better than with the usual antodyne.

#### NOTES FROM ZONE 6.

2LM and 2WH still conduct their weekly skeds on 80. 2LM has another small rotary converter, and is working on a 1 kw. job. Should be QRO again shortly. Both still using the 2-stage suppressor grid modulated outfits. A few of the Dubbo gang are active, but

the quality of fone from that direction leaves a lot to be desired. (See editorial.) Most of their activities seem to centre on 250 metres.

2VJ, of Alectown, still on Monday nights; no particulars of gear.

2QA has been tearing round the country with portable gear. Writing these notes from VIM finds the old 240 A.C. a pleasant change from rotary converters, and the power house across the road has nothing on our old home town for electrical interference.

2RJ has been deep-sea fishing. Ask him about the one that got away.

## NORTH SHORE ZONE NOTES.

ZO—VK2HY.

Owing to pressure of business, the previous writer of these notes, VK2DJR, has reluctantly had to give them up, and in the meantime I promised to fill the breach until further help was captured. I think you will agree that these notes by 2DR have been among the best each month, and I take this opportunity of thanking him for his hard work in this direction. The past month has been one of much activity, incorporating the B.E.R.U. tests and latterly the A.R.R.L. test. Each of these have received considerable help by the VK's, and in some cases fair scores have resulted.

Dave, 2AE, is on again with Xtal RAC sig., which sure gets over to those Yanks. He seems to be piling up a score in the Yank test. He uses a vertical 66 ft. ant., so this may account for his good results. 2DA is putting Manly on the map in W. When he can't work 'em it's no good anyone else trying. Hi! 2HG is on again after his illness. Believe he worked some FB DX the other night on 40 mx., K4 or something. FB Jack, you seem to be settling down to "biz" in the new shack.

Bill, of 2HZ, divides his time between Executive meetings, YL's and 80 mx. fone.

2YC has completely discarded his old love, 10 mx. Jim is becoming quite a DX fiend, and worked PK recently. Don't leave us cold down on 10 mx. though, Jim.

2LZ must be pretty well known throughout this old globe by now. After winning N.S.W. award in Centenary, he went pretty close to VK award in B.E.R.U. Con is on 10 mx. nearly every night; but lately the best DX down there is 2HY's, half a mile away. Hi!

2SS is on quite a lot, and has been trying out 20 mx. Worked W8CRA and received R8. Nice sig. for self-excited, OM. 2WW entered in B.E.R.U. Junior and worked quite a bit of DX. I haven't forgotten your card, Bill. Hi!

2KA QRL study. How's that super going, Paul?

2VG has very solid harmonic on 10 mx. from 40 mx., and can be heard R8 on former working DX. Made his WAC last month, working LU. FB, Rex.

2VQ been rebuilding, and at last achieved T9. QRL.

Had visit from 2DQ recently, who informed me he had heard my overtone on 20 mx. when calling on 10 mx.

Well, gang, hope you give me the same support as you gave 2DR.

## LAKEMBA RADIO CLUB.

VK2LR.

The financial year of the Lakemba Radio Club is drawing to a close, and by the time these notes appear the final arrangements for the Club's annual reunion will have been made. This usually takes place early in May.

There are now three silver cups circulating in the Club for annual competition, two for transmitting members and one for receiving members. The Club's outward QSL Bureau under the direction of Mr. Hughes (2QP) shows a handsome profit, and at the same time provides an excellent opportunity for members to dispatch all their cards cheaply.

The Club's official paper, "Lakemba Review," has proved most successful.

Each meeting night a box is presented by 2QX, into which members may place any spare coppers. This fund is to defray the expenses of any minor club "spreads" which may be held throughout the year, such as on the occasion of inter-club debates. The fortnightly fee payable by members is probably the lowest of any radio club. All other "funds" are entirely voluntary, and there is no doubt that members must be complimented on the excellent support they have extended to all club activities during the past year.

Particular thanks is extended to the following:—Messrs. Hetch & Co., and Slade's Radio, for the donation of silver cups; Mrs. Mitchell, for the very great assistance in printing "Lakemba Reviews"; Mrs. Picknell, who has arranged all club "spreads" during the year; Miss Picknell, who has assisted with the necessary sketching; Mr. Darroch, whose generosity towards the club has been unlimited; the A.R.A. and "Amateur Radio," who have been good enough to accept and publish our notes, and to all those who have in any way helped or displayed interest in the Lakemba Radio Club. We only wish that we had the accommodation at our reunion to invite everybody, and thus extend our thanks in a practical manner.

Communications addressed to the Hon. Secretary, 79 Park St., Canterbury, will receive immediate attention.

## WESTERN SUBURBS WHISPERINGS.

ZO—2MY.

2DW—Doing a bit of DX as fone on 40 mx., but not heard on very often. Still keen on 5 mx. work.

2BX—No sign of Bert. He must have proceeded on that hiking trip up the north coast. Wonder if he lugs his HT supply in a haversack?

2FO—Reported to be having a bit of trouble with neutralising his rig; also to be preparing for a bit of QRO.

2MQ—On the last stage of that famous sniggle snooper.

2JT—Just got settled down nicely in his new QRA, and he finds it necessary to move again. Stiff luck, JT. Let's hope the next QRA is as good for DX as the late one.

2JR—Reported back from the Islands. Wonder if he brought that spark Xmitter back with him. One of these days I'll tell the story of what happened one night when this station fell to assisting 2JR test that rig out. Or



## Amateur Radio

perhaps Davo, 2FD, might be able to tell it better!

2MY—At last solved the mystery of the local QRM that has been making conditions impossible here for weeks. In case anyone happens to ever get the same trouble, here it is: Being troubled with clicks from the light switches every time they were used, decided to try the effect of a line filter. So the conventional filter was installed, but being a bit doubtful about the condensers which had been cribbed from an old bc. power pack, I hit on the brain-wave of passing them to earth via a fuse consisting of a pea lamp. Now figure it out? It took me a week's hard pondering to wake up.

### NEWCASTLE AMATEUR RADIO CLUB NOTES.

(Affiliated with A.R.A.)

By 2RG.

The annual general meeting of the Newcastle A.R.C. was held on March 12. In summing up the activities of the Club for the past year, the President, 2ZW, made mention of the rapid progress made. The original meeting-place of the Club was 2ZW's shack, but the ever increasing membership outgrew the available space. For the past six months a room in the Sun Building has been rented, and this was furnished by a levy on the Club members.

Lectures and debates have been held from time to time, of a most interesting and instructive nature. Mr. L. T. Swain, 2CB, was one of the chief contributors.

During the year two DX contests for Club members were held, the first being won by 2OF, and the second by 2ZC. A trophy donated by Mr. F. Silverthorne is held by the winner.

A recent exhibit of Ham gear at the Newcastle show aroused great public interest, and is regarded as one of the most successful held in this State. Our thanks are due to G. Young, 2FN, and Bob Best, who organised the display.

A Ham Convention is mooted and will probably be held on the second week-end after Easter. A large number of Sydney Hams have already promised to attend, and it is hoped that a very enjoyable week-end will result.

The success of the Club is due to the fact that membership is limited to licensed amateurs or others possessing high technical qualifications. Thus all members retain their keen interest, and activities of the Club continue to increase.

Officers elected were: President, R. A. Grimmett, 2ZW; Vice-President, A. Fairhall, 2YS; Secretary, R. J. Glassop, 2RG; Committeemen, G. Cowell, 280, and F. Lurrant, 2UF.

### Victorian Division

#### WESTERN DISTRICT NOTES. 30W-3HG.

Conditions on 3.5 mc. have improved considerably during the last few weeks, and the band is quite active again with fone stations, both VK and ZL. VK308, 3XJ, and 3HG are very active. (The latter's YL has a SW receiver, and is learning quite a lot about Ham radio!)

3XI (Warrnambool) caused a surprise by starting up one fone on 3.5 mc. 3JA is also active on 7 mc., whilst 3GJ has gone to Melbourne to live.

3DX and 3TA still active on 200 metres.

The 14 mc. band has been good at times, particularly during the warm weather. 3PG succeeded in raising CX and OA with his 4 watts. Although only 8 or 9 miles away from here, his position seems much better for reception than ours, as stations come in there when they are inaudible here.

3HG is leaving in a few days on a trip to 3OR and 3KR, Kerang.

It will be interesting to see how the proposed new power supply at 3OS turns out. It is intended to use a rotary chopper driven by a small motor to break up the 32 volt house lighting supply, this being fed into a special transformer.

This system was tried by 3OW some time ago, and worked fairly satisfactorily until the transformer broke down under the high no-load voltage.

A high working voltage condenser across the secondary would probably have remedied this trouble, but the system was scrapped for other reasons without this being tried.

### MALLEE AND THE NORTH.

3WE.

Conditions generally in N.W. VK3 during January and up to the middle of February can best be described in the words of 3PY as "lousy." Even with a six "toob" super it was impossible to hear anything on 20, and very little on 40, except an occasional VK2; while 80 was a veritable nightmare, owing to QRM and the QRM from frigidaire, fans, and picture show converters, which during the summer is particularly atrocious. However, since February 15 the QRM blanket has lifted somewhat, and a general all round improvement is noticeable, particularly on 40 and 80, although the former is still freaky. On the other hand, at Kerang, 3KA and 3OR report DX galore. Ken worked W6, G, BQ, W9MCD on 40, OH3OJ, OK2KO, and F8WB on 20 in one go, while when 3YJ visited him recently they just about WAC one week-end. Ken also active R.A.A.F.W.R. work, contacting 6Zi while flight of planes on way to Perth recently.

The 3.5 mc. band is rapidly coming "good," and the writer shows a tally of over 60 QSO's for past four weeks—all phone. These include all States and ZL (ex VK6) while several W's. Excellent results are being secured by our ex VK2HS, now 3OS. Bob is getting 1½ watts input from about 100 volts "B" batts, and darn near works the world. When the Fire Brigades Demo. was held at Ballarat early in March, the Hams there had quite a number of visitors, and so much hilarity was heard from 3GM on the 7th that George could be pardoned for putting the YL "behind the grille." Having 3ZK and 3WN there we don't blame him a bit.

Paul, of 3PY, went on a trip to VIM during the month, and visited a few of the boys. Haven't heard yet if he acquired any new gear or if it was all screwed down. 3XJ (with Mutt and Jeff in attendance, assisted by Jess) was most consistently "on" for the

month. He was closely followed by 2HU and 3WE (what's this "personality" stunt, fellows?), while others more or less frequently on 3.5 mc. phone were 51V (Auntie Ivy on the mike), 62C, 5GL, 5QA, 5WJ, 5HD, 5KL, 7RY, 2HU, 2HC, 2BW, 2NM, 2PN, 3's OS, CG, ZJ, 2K, FW, TY, KE, CE, EQ, PW, CH, WN, RZ, GM, PY, HG, LH, EP. The latest to get on 80 phone is 3RG, and was so intrigued that the hours fled swiftly, and when he finally QRT—?—was it the knob off the bedpost that you stopped, Gil? The first ZL to make their appearance on 80 are ZL's 2BE, 1KO, 4CR, 4CU, 3FM.

## Queensland Division

By VK4RY.

The monthly meeting of the Wireless Institute was held at headquarters, Heindorf House, Queen St., Brisbane, on Friday, March 1, before a very large attendance, including several old-timers.

After the general business, a very interesting lecture was delivered by Mr. M. O'Brien, VK4MM, the subject being electron-coupled receivers.

Congratulations were extended to Mr. J. Bates and Mr. J. Bowen, two members who were successful in passing at the recent A.O.P.C. examination.

Members are reminded that the annual meeting will take place at headquarters on Friday, April 6.

All correspondence should be addressed to the Secretary, Box 1624V, G.P.O., Brisbane.

4UU has at last worked that elusive African for his WAC.

4KA recently paid a visit to VIB and called on several of the local boys. Understand two RK20's were purchased.

4HR and 4MM were recently heard testing on 56 mc.

4AP certainly gets out FB. During the recent B.E.R.U. test he was able to obtain his WAC in eight hours.

4HB has completed his four-stage Xtal rig.

4EI intends annoying the Yanks on 14 mc. fone suppressor grid modulation, during the coming winter; has also purchased an RK20.

4WB, ex VK2BI, is back in VIB, and is at present rebuilding.

4JB, another lucky one, recently worked SU6HL on 14 mc., and is now WAC.

4GU still continues to put out good fone.

4WT is a real solid worker. When not doing secretarial work is spending his spare moments decorating his yard with 56 mc. antennas.

4UZ, of Toowoomba, is at present entertaining the B.C.L.'s on the 200 mx. band.

## South Australian Division

By Eric Halliday.

DX conditions, both on 7 mc. and 14 mc., have been very good in VK5 up to 18/3/35. Hams on both bands have had no difficulty in working Europe, Africa, and, of course, North America. At times it has been hard to decide which is the better band, but just at present DX seems to be more on 14 mc.

Early morning and evening seem to be the best times to hear DX, and often there are so many chaps on that it is hard to find a quiet spot on the band.

Naturally many of the Hams have had no difficulty in raising the number of countries worked.

5RX has worked 63. George's two tube battery receiver certainly drags the DX in. Maximum high tension is only 60 volts, too!

5RF went out the other morning to find his pole down on the ground. Hopes to have it up again shortly, but in the meantime is rebuilding his Hartley. 5LD still drags in the DX. 5KL has found conditions good on 7 mc. in the early mornings. Has worked HB, F8, CR7, X, and XU lately. 5WK is another who has done well. Finds no trouble in contacting W's on 20 m.

5LG returned home this week from Western Victoria with his YL. Hopes to be on the air again shortly with a p.p. rig. 5LB has been heard on 7 mc. a lot lately with some FB fone.

5RI, the South Australian Railways Institute, has been heard on fone on 200 m. quite a lot lately. Strength is FB, but the quality could be improved a trifle. 5DC puts out one of the strongest 200 m. signals in VK6.

5WB is back in Adelaide again after having been stationed as operator at 5PI, Crystal Brook, for some months. Result: 5WB is back on the air again. Harry Wheeler (5HW) is making an FB job of the elementary lectures again.

The annual general meeting will be held at the club-rooms on April 10. It will take the form of a smoke social.

## Tasmanian Division

By 7PA.

(Hon. Sec., H. M. Moorhouse, 95 Arthur St., North Hobart.)

The A.R.R.L. contest has held the attention of a number of our members and from the times 7RC and 7XL in the North have been called, one would anticipate something from them.

7JB has been the most consistent down here. I understand he bagged 87 W's and a VE the first night.

7JH and 7PA made their attempt at contest work for the first time, but it was not so hot in my opinion.

Conditions here—due to QRM from high-powered mainlanders—were putrid at times, and some of the broad signals covered a big percentage of the band, and were many times worse than any local.

It is proposed to run a monster "State Field Day," which members from all parts of the State will attend. The centre of the activities will be Campbell Town, on March 31, and a big day is expected. The 80 mx. band is to be used, and it is proposed to try phone. Our Northern brothers are providing the transmitting equipment.

A camp is being arranged for those who can get away on the Saturday, so that it should be a great attraction.

A further attraction is a lantern lecture to be given by one of Hobart's recognised lecturers, Mr. Nat. Oldham, and will be entitled, "Early Hobart and Its Hotels."

Reprinted by Request

## "R," READABILITY.

1. Unreadable.
2. Barely readable—occasional words distinguishable.
3. Readable with considerable difficulty.
4. Readable with practically no difficulty.
5. Perfectly readable.

## "S," SIGNAL STRENGTH.

1. Faint—signals barely perceptible.
2. Weak signals.
3. Fairly good signals.
4. Good signals.
5. Very strong signals.

## "T," TONE.

1. Extremely rough hissing note.
  2. Very rough a.c. note—no trace of musicality.
  3. Rough low pitched a.c. note—slightly musical.
  4. Rather rough a.c. note—moderately musical.
  5. Musically modulated note.
  6. Modulated note—slight trace of whistle.
  7. Near d.c. note—smooth ripple.
  8. Good d.c. note—just trace of ripple.
  9. Purest d.c. note.
- If it appears to be crystal controlled, simply add an X after the appropriate number.



Let us quote you for—

LETTERHEADS  
Q.S.L. CARDS  
ENVELOPES  
ETC.

## ELSUM PRINTING COY.

126 Whitehorse Road, Box Hill, E.11

Telephone:- WX 2429

# **THE** *Guaranteed* **WIRELESS VALVE**



Every Radiotron is laboratory tested and guaranteed by Amalgamated Wireless to retain its tonal quality and give longer life than any other valve in the world.

## **RADIOTRONS**

DISTRIBUTORS:

AMALGAMATED WIRELESS (AUSTRALASIA) LTD  
167-9 Queen Street, Melbourne.

ASSOCIATED GENERAL ELECTRIC INDUSTRIES LTD  
Cnr. Queen and Little Collins Streets, Melbourne, C.I

ADVERTISEMENT OF  
*Amalgamated Wireless Valve Company Limited*

# R.A.A.F. Wireless Reserve Notes

## NOTES AND ACTIVITIES.

### Federal Notes by the C/O.

Fresh ideas are to be shortly put in operation in all districts. The first will probably be the issuing to each active member of a quartz crystal ground to his section working frequency. When all stations are working on the officially allotted reserve frequencies the trouble of phone interference on traffic channels will disappear entirely.

The Air Board is now in a position to see its way clear to co-operate more with the reserve, and we may look forward to a year of lively activity. It is hoped that some of the lost enthusiasm on the part of certain members will be renewed. More members are being gradually enrolled, and the reserve is spreading its operations over a wide area of the Commonwealth.

The VMF and VMC districts are to be congratulated on the fine work done during the recent flight visit to Perth. Daily watches were conducted without a miss. We can look forward to more of this genuine work when the squadron is finally established in W.A. At present the minds of the VMC reservists are turned to the Easter Camp at Laverton, where they are assured of an interesting time and practical experience, both in the air and on the ground. It is to be expected that such camps will shortly be extended to Richmond, N.S.W., and other places.

This month has brought about a change at the Air Board. Flight Lieut. Wiggins, the Staff Officer for Signals, has left on a world tour and his place has been taken by Squadron Leader Swinburn, who has recently returned from London, where he was Liaison Officer. Both these officers have always taken a keen interest in the reserve, and have done their utmost for it. Flight Lieut. Wiggins said that he could proudly speak of the fine work of the reserve wherever he goes.

### Second District Notes (by 2Z1).

Activity in VMB has not been too bright lately, but with the renewed hopes of better co-operation that have been received from headquarters, we can look forward to a more lively future. Traffic totals of the more active stations are:—2A2 3, 2A4 10, 2A5 5, 2B3 5. Owing to 2A4 being absent on leave, 2A5 has taken over the section commandship of the first section.

### Third District Notes (by 3Z1).

VMC has been in a furor since the announcement that a reserve camp would be held at Easter. Many members must have latent ability in persuasive methods, because every man in VMC but one, both inactive and active, will be present. Some of the bosses took some persuasion too from all accounts, one member even going to the extent of saying if it meant his job or camp, then camp it was! In future years, inactive stations, unless there is some legitimate reason for their inactivity, will be debarred from camp.

but this year all may go in order that each man may benefit from the actual experience gained whilst at Laverton. The only proviso is that every man must be 100 per cent. efficient as far as message handling ability and procedure are concerned.

Of course, nothing need be said about the active men—they are proficient in all phases of procedure from practice, but the inactive stations have got to work, and work hard, between now and the camp period, in order to reach the desired efficiency standard.

3D1 unfortunately won't be able to get down to camp, as he runs his own business, and can't get anyone to handle it during his absence.

3C2 and 3D4 have been doing a great job handling the Perth traffic, in conjunction with 6Z1; with the flight of Wapitis over there, there has been quite a lot of messages moving, but contact has been 100 per cent. each night.

We are very sorry to hear that 3D4's father is very seriously ill, and sincerely trust that he is showing very definite signs of improvement.

3C5 has been handling some of the Melbourne end of the Perth traffic for 3C2/3D4 when they have been unable to contact VJP.

3A6, one of our most recent members, has been putting over a great job this month. Besides the 56 messages he has originated in the last 18 days, and all real traffic, he has handled well over 100 relays, both Perth and section traffic. In a little over six weeks he has learnt his procedure 100 per cent. perfectly, and is now in the forefront of our VMC crack operators.

We are missing 3D6 very much from our weekly schedules. For over four years her signal has been the most regular of anyone in the district.

1A1 has requested full traffic returns to be forwarded again to him, so the returns shown for VMC are those from 1/3/35 to 18/3/35 only. These returns are always kept by 3Z1 and tabulated in each quarterly report. However, it will be excellent to have the best district, section, station total in "Amateur Radio" each month again. As far as VMC is concerned, the totals that appear are those of messages handled only in the normal course of work, no dummy traffic being permitted.

### Sixth District Notes (by 6Z1).

The twelve-day visit to Perth of three Wapitis has aroused considerable enthusiasm amongst VMF members. 6A3 is the only member who has been unable to attend the lectures, and report at aerodrome for instruction, owing to distance from Perth. Both 6A1 and 6A4 came down from the north and had flying experience, with prospects of further instruction when the flight visits their home town. One whole day has already been spent at the aerodrome, and one and a half more are to be put in. Unfortunately

the flight is only equipped with 600 k/ca. transmitter, with portable ground receiver for army co-operation work. No short-wave gear is being carried, but the greatest use is being made of the apparatus available. Thanks to the co-operation from 3C2 and 3D4, daily watches have been kept while the flight is staying here with 6Z1, 6Z2, and 6A2. Many important signals have been handed by reserve stations, and the utmost use has been made of reserve channels by the O/C. of the flight. Such a thing gives members great confidence in their ability.

## HAMADS

3d. per line. Address correspondence to Advertising Manager, "Amateur Radio," 126 Whitehorse Road, Box Hill, E.11.

### BRIGHT STAR RADIO—VK3UH

517 Lower Malvern Rd., Glen Iris, S.E. 6.

Crystals accurately ground from best Brazilian quartz and tested to 50 watts input to penthode oscillator. 200, 160 and 80 meter, 10/-; 40 meter, £1. Instal xtal and give yourself that frequency, stability and note that other hams admire.

Call or write above address

**FOR SALE.**—C.C. transmitter, tri-tet CO, FD, and PP PA link coupled, perm. neut., Collins ant. coupling, 90 watts input, rack and panel built, complete with best meters and power supply; also relay rack and other junk. W. Dempsey, Centre Dandenong Rd., Cheltenham, S. 22.

**FOR SALE.**—No reasonable offer refused. Ferranti Transformers:—AF3, AF4, AF5, AF5CC, OPMIC. Power transformer 600V/600, 150MA with 4 filament windings. Phillips Mercury Papor Rectifier 1/1072 brand new.

**FOR SALE.**—Photo-electric cell, Weston Photronic. Brand new practically. Two years' written guarantee. £2/10/-. VK3WB, 20 Wheatland Road, Malvern, S.E. 4.

Enclosed transmitter rack, complete with panels and four glass doors, 6 ft. 6 in. high, 2 ft. 6 in. wide, 7 shelves, what offers? Also 2 10's. VK3LQ.

## R/9

- This live wire "Main" mag. from U.S.A. is gaining popularity each month. Publishers have sent us extra copies of the last two issues at a cut price to enable us to make this special offer.
- A sample copy will be sent post free upon receipt of 1/- in stamps, P.N. or coin. Do not delay—rush your order AT ONCE.
- It pays to buy good magazines and text books.
- McGill's Agency have had the privilege of supplying radio text books and magazines to all four winners of the Wireless Institute Centenary Contest. Let their judgment and success sway you. Write or see us regarding your wants.

## MCGILLS AGENCY

183-185 Elizabeth St., Melbourne

(The G.P.O. is opposite)

Send for our full catalogue of books on Radio, Television, Sound Projection, Refrigeration, Flying and Motor Racing.

# Solving Your Instrument Problems

Amateurs are invited to submit  
their problems to us. Stocks are  
available to meet all requirements.

# SIEMENS

# ELLIOTT

## BRITISH Radio Instruments

ASSURE  
ACCURACY  
RELIABILITY  
SERVICE



Stocks of Miniature Instru-  
ments for Panel Mounting  
available in the following  
types for A.C., D.C. and  
R.F. Measurements. Moving  
Coil, Moving Iron, Thermo-  
Couple and Metal Rectifier  
Patterns.

## SIEMENS [AUST.] PTY. LIMITED

SYDNEY—MELBOURNE—BRISBANE—ADELAIDE

H. C. Little & Co. Ltd., PERTH. F. H. Fearon, NEWCASTLE

Sole Agents in Australia for the English Electric Co. Ltd., London

## DO U Q.S.L.?

If so get ur next Q.S.L's from—  
"VK 2LZ Q.S.L. SERVICE"

### THE WARATAH PRESS

321a George Street, Sydney

Prices:- Any one colour (except Gold or Silver)

250 10/6; 500 13/-; 1000 18/6.

Two Colours:- 250 14/6; 500 19/6; 1000 27/6

WRITE US FOR A QUOTE ON ANY KIND OF  
CARD

Prompt Service to Hams!

## ARE YOU A MEMBER?

Subscriptions to the W.I.A. (Victorian Division) are  
as under:—

Full Member, 20/-. Associate Member, 16/-

Country—Full Member, 14/6; Associate Member, 8/9

Student Member, 7/6.

Entrance Fee, 2/6

Write to Secretary, Law Court Chambers, 191 Queen St., City

## QUARTZ CRYSTALS

Every Crystal tested to 50 watts input to Penthode Crystal Oscillator  
Accurate grinding to .03 per cent. 3.5 M.C., 20/-; 7 M.C., 30/-  
100 K.C. Xtals. 465 K.C. Xtal "Gates. Prices on application

PROMPT DELIVERIES

MAXWELL HOWDEN (VK3BQ) CONS. RADIO ENGR.

13 Balwyn Road, Canterbury, E.7.